

Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1 - 9. (canceled)

10. (currently amended) An object identification system comprising:

at least one detection unit for positioning at a check point to detect gamma, X-ray and neutron radiations resulting from nuclear decay from an object being inspected at said check point and emitting a corresponding detection signal thereto, said detection unit including a microprocessor controller and an information transfer device; and

a preprocessing unit for receiving and analyzing said detection signal to identify the object at said check point, said preprocessing unit including a display unit, an information input device, a processor having a spectrum analysis unit for identification of radioisotopes based on the radiations and a connecting unit for communicating with an expert system for receiving instructions and radioisotope information therefrom for further processing of the object at said check point.

11. (previously presented) The object identification system of claim 10, wherein the connecting unit includes a channel for two-way transfer of audio and video information.

12. (previously presented) An object identification system as set forth in claim 10 wherein said preprocesssing unit is a mobile device selected from the group consisting of a smart phone and a notebook.

13. (previously presented) The object identification system of claim 10, wherein the preprocessing unit includes an optical scanner.

14. (previously presented) The object identification system of claim 10, further comprising a plurality of the detection units disposed at a plurality of check points, each the detection unit being connected to the preprocessing unit and including an identification marker.

15. (previously presented) The object identification system of claim 10, further comprising a common housing containing the detection unit and the preprocessing unit.

16. (previously presented) The object identification system of claim 10, wherein the preprocessing unit is selectively connected to a remote expert system for receiving instructions therefrom for further processing of the object at the check point.

17. (previously presented) The object identification system of claim 10, wherein ~~said~~ the preprocessing unit has a receiver selectively connected to a global positioning system to determine the geographic location of the object at the check point.

18. (currently amended) An object identification system comprising;
at least one detection unit for detecting gamma, X-ray and neutron radiations resulting from nuclear decay in from an object being inspected at the check point, the detection unit and emitting a corresponding detection signal ~~thereto~~, the detection unit including a microprocessor controller and an information transfer device;

a preprocessing unit for receiving and analyzing the detection signal to identify the object, the preprocessing unit including a display unit, an information input device, a processor

having a spectrum analysis unit and a connecting unit for communicating with an expert system for receiving instructions therefrom for further processing of the object; and

an expert system remote from the detection unit for receiving instructions from the preprocessing unit for further processing of the object and having a communication channel connected to one of a national emergency warning system and a departmental emergency warning system.

19. (previously presented) The object identification system of claim 18, wherein the preprocessing unit has a receiver selectively connected to a global positioning system to determine the geographic location of the object at the check point.

20. (currently amended) A portable hand-held system for identification of a radiation source, the system comprising:

a portable detection unit that detects ionizing radiation from nuclear decay in the radiation source and provides a corresponding detection signal based on the detected radiation;

a spectrum analysis unit for analyzing a radiation spectrum corresponding to radioisotope signatures detected by the detection unit;

a display unit for displaying results of the spectrum analysis; and

a connecting unit for communicating with an expert system and for receiving instructions and radioisotope information for further processing of the radiation source.

21. (previously presented) The system of claim 20, wherein the system is housed in a common housing with a mobile telephone that includes a microprocessor for the analyzing of the radiation spectra.

22. (previously presented) The system of claim 20, wherein the ionizing radiation includes gamma radiation.

23. (previously presented) The system of claim 20, wherein the ionizing radiation includes X-ray radiation.

24. (previously presented) The system of claim 20, wherein the ionizing radiation includes neutron radiation.

25. (previously presented) The system of claim 20, wherein the ionizing radiation includes neutron, gamma and X-ray radiation.

26. (previously presented) The system of claim 20, wherein the system includes a global positioning system receiver, and wherein the connecting unit communicates current position of the system to the expert system.

27. (previously presented) The system of claim 26, wherein the system includes a mobile telephone that includes a microprocessor for the analyzing of the radiation spectrum.

28. (currently amended) The system of claim 20, wherein the system includes a global positioning system receiver, ~~and wherein the connecting unit communicates current position of the system to the expert system.~~

29. (previously presented) The system of claim 20, wherein the system is connected using Bluetooth to a mobile device that includes a microprocessor for the analyzing of the radiation spectra, the mobile device being any of a laptop, a personal communicator and a mobile telephone.

30. (currently amended) A portable hand-held system for identification of a radiation source, the system comprising:

a portable detection unit that detects gamma radiation, X-ray radiation and neutron radiation emitted due to nuclear decay in the radiation source being inspected and provides a corresponding detection signal based on the radiation;

a radioisotope analysis unit for analyzing radiation detected by the detection unit for determining radioisotope information;

a display unit for displaying results of the analysis to a user, including radiation spectrum and the radioisotope information;

a GPS receiver providing a current position information; and

a connecting unit for communicating the results of the analysis and the current location to a remote computer.